

ELECTRICAL SYMBOLS					
NOTE: SYMBOLS SHOWN IN THIS SCHEDULE ARE TYPICAL. NOT ALL ARE USED IN THIS PROJECT. MOUNTING HEIGHTS ARE TO THE CENTER OF THE DEVICE AND ARE TYPICAL.					
			DASHED SYMBOLS INDICATE EXISTING FIXTURE, EQUIPMENT, ETC.		
SYMBOL	DESCRIPTION	MOUNTING HEIGHT	SYMBOL	DESCRIPTION	MOUNTING HEIGHT
ELECTRICAL WIRING			LIGHTING CONTROL		
	CROSS LINES INDICATE NUMBER OF CONDUCTORS GROUNDING CONDUCTORS NOT INCLUDED.	N/A		SINGLE POLE SWITCH	+46"
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL	N/A		3-WAY SWITCH	+46"
	BRANCH CIRCUIT CONCEALED IN GROUND OR FLOOR	N/A		4-WAY SWITCH	+46"
	BRANCH CIRCUIT HOMERUNS TO PANEL w/PANEL & CIRCUIT NUMBER DESIGNATIONS.	N/A		SWITCH WITH PILOT LIGHT	+46"
	CONDUIT RISER UP	N/A		DIMMER SWITCH	+46"
	CONDUIT RISER DOWN	N/A		KEYED SWITCH	+46"
	CONDUIT STUB (CAP CONDUIT)	AS NOTED		DIGITAL TIMER SWITCH	+46"
	CABLE TRAY	AS NOTED		MANUAL STARTER WITH THERMAL OVERLOAD	AS NOTED
	BUS DUCT	AS NOTED		LOW VOLTAGE SWITCH	+46"
ELECTRICAL POWER				CONTROLLING SWITCH (LETTER INDICATES CONTROL CIRCUIT)	+46"
	JUNCTION BOX	AS NOTED		SINGLE POLE SWITCH/OCCUPANCY SENSOR COMBINATION, MANUAL ON/AUTO OFF (WALL MOUNTED) DUAL TECHNOLOGY*	+46"
	DUPLEX RECEPTACLE	+16"		OCCUPANCY SENSOR DUAL TECHNOLOGY	CEILING
	QUAD RECEPTACLE	+16"		TIME SWITCH	+60"
	SPLIT WIRED DUPLEX RECEPTACLE	+16"		LIGHTING CONTACTOR	+60"
	DUPLEX RECEPTACLE WEATHERPROOF AND GFCI	+16"		PHOTOCELL	AS NOTED
	DUPLEX RECEPTACLE OUTLET WITH GROUND FAULT CIRCUIT INTERRUPTION PROTECTION	+16"	LIGHTING		
	RECEPTACLE ELECTRIC WATER COOLER (EWC) WITH GROUND FAULT CIRCUIT INTERRUPTION PROTECTION	+16"		LINEAR FIXTURE (TYPICAL)	CEILING
	EQUIPMENT RECEPTACLE	+16"		LINEAR EMERGENCY FIXTURE (TYPICAL)	CEILING
	SPECIAL PURPOSE RECEPTACLE	+16"		SURFACE MOUNTED FIXTURE	CEILING
	DUPLEX RECEPTACLE FLOOR	FLOOR		RECESSED FIXTURE	CEILING
	QUAD RECEPTACLE FLOOR	FLOOR		WALL MOUNTED FIXTURE	AS NOTED
	FIRE RATED POKE THROUGH	FLOOR		WALL MOUNTED EMERGENCY EGRESS FIXTURE	AS NOTED
	POWER/TELEPHONE POLE	FLOOR		LINEAR STRIP	CEILING
	MULTI-OUTLET WIREWAY	+46"		TRACK LIGHTING	CEILING
ELECTRICAL CONNECTIONS				EMERGENCY LIGHTING UNIT	+84"
	NON-FUSED DISCONNECT SWITCH	TOP AT 6'-0"		FIXTURE TYPE SYMBOL (ATTACHED TO FIXTURE SYMBOL)	N/A
	FUSED DISCONNECT SWITCH	TOP AT 6'-0"		POST TOP AREA LIGHT POLE & FIXTURE	AS NOTED
	MOTOR STARTER/DISCONNECT SWITCH COMBINATION NON-FUSED	TOP AT 6'-0"		AREA LIGHT POLE AND FIXTURE (HEAD QTY AS SHOWN ON PLAN)	AS NOTED
	MOTOR STARTER/DISCONNECT SWITCH COMBINATION FUSED	TOP AT 6'-0"		BOLLARD FIXTURE	GROUND
	MOTOR STARTER ONLY	TOP AT 6'-0"		FLOOD OR SPOT FIXTURE	AS NOTED
	VARIABLE FREQUENCY DRIVE	+78"		WALL MOUNTED EXIT LIGHT (SINGLE FACE)	+84"
	MOTOR CONNECTION	AS NOTED		WALL MOUNTED EXIT LIGHT (DOUBLE FACE)	+84"
ELECTRICAL DISTRIBUTION				CEILING MOUNTED EXIT LIGHT (SINGLE FACE)	CEILING
	CEILING MOUNTED EXIT LIGHT (DOUBLE FACE)	CEILING	SECURITY		
	TELEPHONE COMPANY PEDESTAL	AS NOTED		SECURITY SYSTEM DOOR CONTACT	DOOR JAMB
	POWER COMPANY GROUND SLEEVE	AS NOTED	TELECOMMUNICATIONS		
	POWER COMPANY SITE TRANSFORMER	AS NOTED		TELEPHONE OUTLET	+16"
	HIGH VOLTAGE (277/480 VOLT) PANELBOARD	TOP AT 6'-0"		COMPUTER DATA OUTLET	+16"
	LOW VOLTAGE (120/208 VOLT) PANELBOARD	TOP AT 6'-0"		VOICE / DATA OUTLET	+16"
	DRY TYPE TRANSFORMER	AS NOTED		TELEPHONE OUTLET FLOOR	FLOOR
	DISTRIBUTION SWITCHBOARD	AS NOTED		COMPUTER DATA OUTLET FLOOR	FLOOR
	TELEPHONE AND/OR DATA TERMINAL BOARD	AS NOTED		NETWORK AND VOICE OUTLET FLOOR	FLOOR
ELECTRICAL DEVICES			REFERENCE SYMBOLS		
	PUSHBUTTON	+46"		FEEDER TAG (ONE LINE DIAGRAM)	N/A
	STOP/START STATION	+46"		REVISION TAG INDICATOR	N/A
	"EMERGENCY POWER OFF" MUSHROOM TYPE BUTTON	+46"		DETAIL INDICATOR: TOP DETAIL IDENTIFICATION BOTTOM INDICATES SHEET WHERE DETAIL IS LOCATED.	N/A
	LINE VOLTAGE THERMOSTAT	+46"		MECHANICAL EQUIPMENT SYMBOL	N/A
	NURSE CALL BED/BATH STATION	+46"		KEYED NOTE REFERENCE	N/A
	NURSE CALL LIGHT	+84"		SECURITY SYSTEM PANEL	AS NOTED
	NURSE CALL STATION PANEL	TOP AT 6'-0"		POWER SUPPLY LOW VOLTAGE	AS NOTED

ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	(D)	DEMOLISH/DELETE
AFP	ARC FAULT PROTECTOR	E	EMERGENCY
(EX)	EXISTING	IG	GALVANIZED RIGID CONDUIT
AL	ALUMINUM	(R)	ISOLATED GROUND
BG	BELOW GRADE	EPO	EMERGENCY POWER OFF
C	CONDUIT	EWC	ELECTRIC WATER COOLER
FCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	EWV	ELECTRIC WATER HEATER
CKT	CIRCUIT	(F)	FUTURE
CO	CONDUIT ONLY	FA	FIRE ALARM
CU	COPPER	FLA	FULL LOAD AMPS
CW	COMPLETE WITH	GFI	GROUND FAULT INTERRUPTER
		GFP	GROUND FAULT PROTECTOR
		GND	GROUND
		GRG	GALVANIZED RIGID CONDUIT
		IG	ISOLATED GROUND
		MCB	MAIN CIRCUIT BREAKER
		MCC	MOTOR CONTROL CENTER
		MH	MANHOLE
		MLO	MAIN LUGS ONLY
		(N)	NEW
		NC	NOT IN CONTRACT
		NL	NIGHT LIGHT
		OFI	OWNER FURNISHED CONTRACTOR INSTALLED
		OFI	OWNER FURNISHED OWNER INSTALLED
		PNL	PANEL
		(R)	RELOCATE
		(RM)	REMOVE AND RETURN TO OWNER
		TR	TAMPER RESISTANT
		TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
		TVS	TYPICAL
		UNO	UNLESS NOTED OTHERWISE
		WP	WEATHER PROOF
		XMR	TRANSFORMER
* THIS IS A TYPICAL ABBREVIATION LIST. NOT ALL ABBREVIATIONS ARE USED ON THIS PROJECT.			

ELECTRICAL SPECIFICATIONS

SECTION 16000 - GENERAL PROVISIONS

WORK CONSISTS OF FURNISHING LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL WORK SHOWN IN THE CONTRACT DOCUMENTS AND SPECIFIED IN DIVISION 16.

INCLUDE ALL PARTS AND LABOR, WHICH ARE INCIDENTAL AND NECESSARY FOR A COMPLETE AND OPERABLE INSTALLATION EVEN THOUGH NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS. SUCH ITEMS INCLUDE NUTS, BOLTS, ANCHORS, BRACKETS, SLEEVES, OFFSETS IN CONDUIT, FITTINGS, RELAYS, ETC.

REQUEST INSPECTIONS AS REQUIRED BY REGULATING AGENCIES AND/OR REGULATIONS. PAY ALL CHARGES FOR INSPECTIONS BY REGULATING AGENCIES OF INSTALLATIONS OF PLANS AND SPECIFICATIONS.

INCLUDE STATE AND LOCAL SALES TAXES IN THE BID. KEEP ACCURATE RECORDS OF THESE TAXES AND FURNISH SUCH RECORDS TO THE OWNER UPON REQUEST.

MEET OR EXCEED ALL CURRENT APPLICABLE CODES, ORDINANCES AND REGULATIONS FOR ALL INSTALLATIONS. PROMPTLY NOTIFY THE ENGINEER, IN WRITING, IF THE CONTRACT DOCUMENTS APPEAR TO CONFLICT WITH GOVERNING CODES AND REGULATIONS. CONTRACTOR ASSUMES ALL RESPONSIBILITY AND COSTS FOR CORRECTING NON-COMPLYING WORK INSTALLED WITHOUT NOTIFYING THE ENGINEER.

HIGHER QUALITY OF WORKMANSHIP AND MATERIALS INDICATED IN THE CONTRACT DOCUMENTS TAKES PRECEDENCE OVER THAT ALLOWED IN REFERENCED CODES AND STANDARDS.

THE TERMS DEFINED BELOW APPLY TO ALL WORK INCLUDED IN DIVISION 16.

a. THE WORK - AS DEFINED IN THE 1987 AIA DOCUMENT A201: "THE TERM 'WORK' MEANS THE CONSTRUCTION AND SERVICES REQUIRED BY THE CONTRACT DOCUMENTS WHETHER COMPLETED OR PARTIALLY COMPLETED, AND INCLUDES ALL OTHER LABOR, MATERIAL, EQUIPMENT AND SERVICES PROVIDED OR TO BE PROVIDED BY THE CONTRACTOR TO FULFILL THE CONTRACTORS OBLIGATIONS. THE WORK MAY CONSTITUTE THE WHOLE OR A PART OF THE PROJECT."

b. FURNISH - TO OBTAIN IN NEW CONDITION READY FOR INSTALLATION INTO THE WORK.

c. INSTALL - TO STORE, SET IN PLACE, CONNECT AND PLACE INTO OPERATION INTO THE WORK.

d. PROVIDE - TO FURNISH AND INSTALL.

e. CONNECT - TO BRING SERVICE TO THE EQUIPMENT AND MAKE FINAL ATTACHMENT INCLUDING NECESSARY SWITCHES, OUTLETS, BOXES, TERMINATIONS, ETC.

f. CONDUIT - INCLUDES IN ADDITION TO CONDUIT, ALL FITTINGS, PULL BOXES, HANGERS AND OTHER SUPPORTS AND ACCESSORIES RELATED TO SUCH CONDUIT.

g. CONCEALED - HIDDEN FROM SIGHT IN CHASES, FURRED SPACES, SHIFTS, HUNG CEILINGS, EMBEDDED IN CONSTRUCTION, IN CRAWL SPACES OR BURIED.

h. EXPOSED - NOT INSTALLED UNDERGROUND NOR CONCEALED AS DEFINED ABOVE.

THE DRAWINGS AND SPECIFICATIONS CONSTITUTE THE CONTRACT DOCUMENTS. ANY ITEM NOTED IN THE SPECIFICATION OR SHOWN ON THE DRAWINGS IS INCLUDED IN THE CONTRACT DOCUMENTS.

ALL ELECTRICAL DETAILS AND DRAWINGS ARE DIAGRAMMATIC, UNLESS SPECIFICALLY NOTED. FIELD VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY CONFLICTS OR DISCREPANCIES, IN WRITING, PRIOR TO INSTALLATION.

INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY PRECAUTIONS REQUIRED WITH THIS WORK IN ACCORDANCE WITH THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND OTHER GOVERNING AGENCIES.

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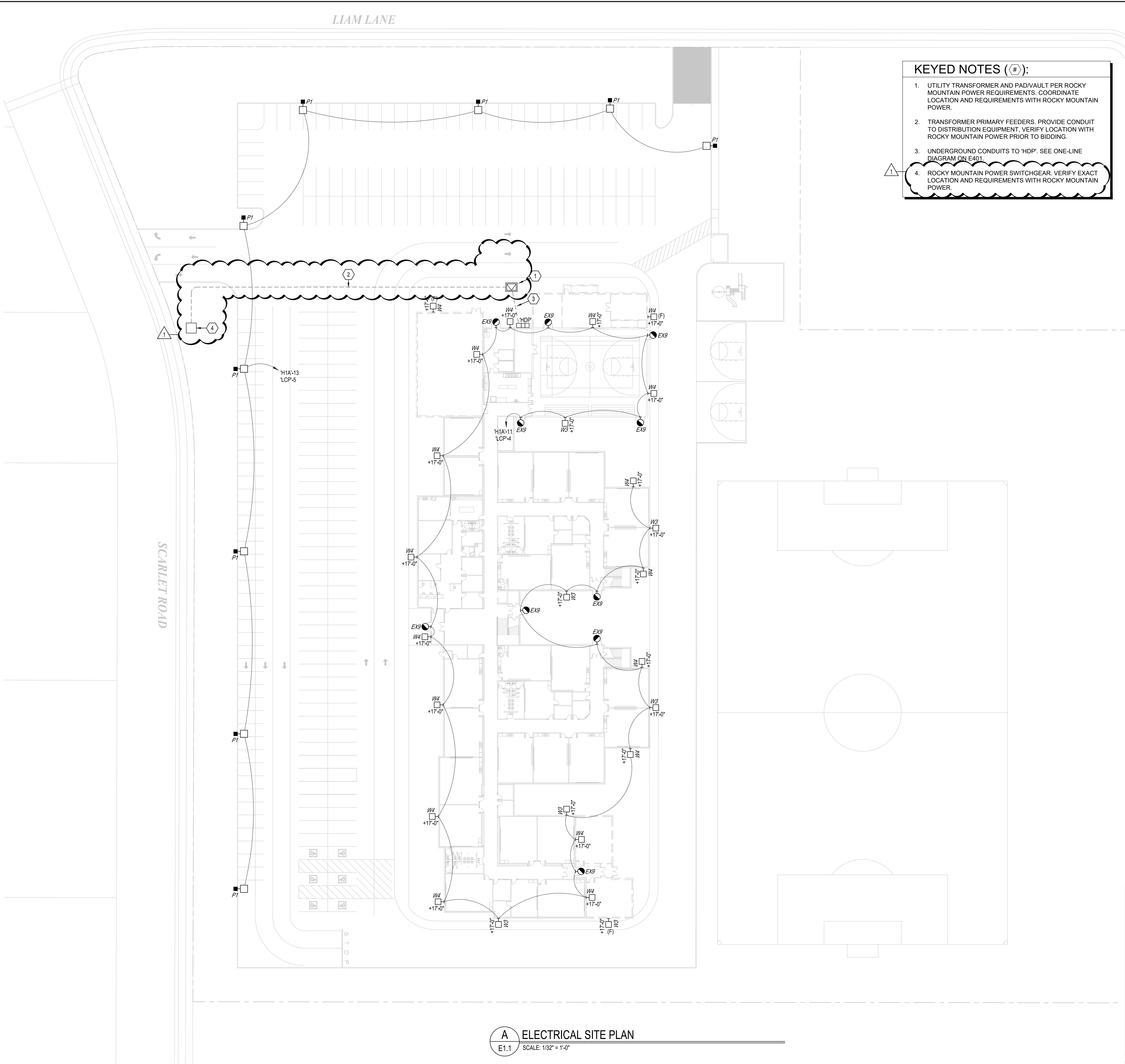
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GENERAL NOTES

- THE ELECTRICAL CONTRACTOR SHALL REVIEW AND COORDINATE WITH ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING AND OTHER DRAWINGS PRIOR TO BID.
- SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS IN A NEAT AND ORDERLY MANNER WITH TYPE AND MODEL NUMBERS INDICATED. SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO: LIGHTING FIXTURES, LAMPS, WIRING DEVICES, OCCUPANCY SENSORS, CONTACTORS, TIME CLOCKS, PHOTOCELLS, RELAYS, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL, CENTERS, SAFETY SWITCHES, MOTOR STARTERS, OVERCURRENT PROTECTION DEVICES, TRANSFORMERS, CONDUCTORS OVER 600 VOLTS AND ALL SPECIAL SYSTEMS SUCH AS FIRE ALARM, LIGHTING CONTROLS, SECURITY SYSTEMS, SOUND SYSTEMS ETC.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. MANUFACTURERS CATALOG NUMBERS ARE LISTED AS A BASIS OF DESIGN. ELECTRICAL CONTRACTOR SHALL SUBMIT PRODUCT INFORMATION THAT DEVIATES FROM ORIGINAL DESIGN AND SPECIFICATION.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY BUILDING PERMITS AND INSPECTION FEES.
- ALL IMPACT FEES ASSOCIATED WITH CITY, UTILITY OR SERVICE COMPANIES FOR BUT NOT LIMITED TO POWER, TELEPHONE, FIBER OPTIC & INTERNET SHALL BE THE RESPONSIBILITY OF THE OWNER.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE GENERAL CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY POWER FOR PROJECT CONSTRUCTION AS REQUIRED. ALL ENERGY COSTS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- DO NOT SCALE DRAWINGS VERIFY DIMENSIONS IN FIELD PRIOR TO MAKING ANY ROUGHINS.
- ELECTRICAL CONTRACTOR SHALL REVIEW ALL ARCHITECTS ELEVATIONS, SECTIONS AND FLOOR PLANS PRIOR TO ROUGH IN OF ELECTRICAL DEVICE JUNCTION BOXES.
- CONSULT ARCHITECTS REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LIGHTING FIXTURES, SPEAKERS, SMOKE DETECTORS ETC.
- ELECTRICAL CONTRACTOR SHALL MEET WITH THE CEILING AND MECHANICAL CONTRACTORS TO COORDINATE LOCATIONS, CLEARANCES, CEILING TYPES AND ROUGH-IN

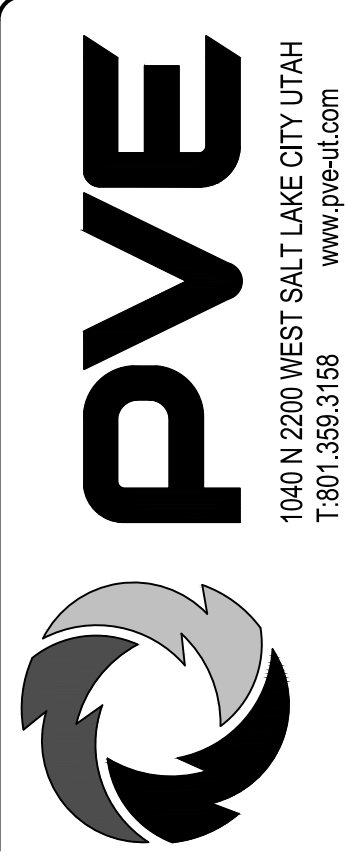
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- KEYED NOTES (#):**
1. UTILITY TRANSFORMER AND PAD/VAULT PER ROCKY MOUNTAIN POWER REQUIREMENTS. COORDINATE LOCATION AND REQUIREMENTS WITH ROCKY MOUNTAIN POWER.
 2. TRANSFORMER PRIMARY FEEDERS. PROVIDE CONDUIT TO DISTRIBUTION EQUIPMENT, VERIFY LOCATION WITH ROCKY MOUNTAIN POWER PRIOR TO BIDDING.
 3. UNDERGROUND CONDUITS TO 'HDP'. SEE ONE-LINE DIAGRAM ON E401.
 4. ROCKY MOUNTAIN POWER SWITCHGEAR. VERIFY EXACT LOCATION AND REQUIREMENTS WITH ROCKY MOUNTAIN POWER.



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JOHN HANCOCK CHARTER SCHOOL
2890 N SCARLET ROAD
EAGLE MOUNTAIN, UTAH

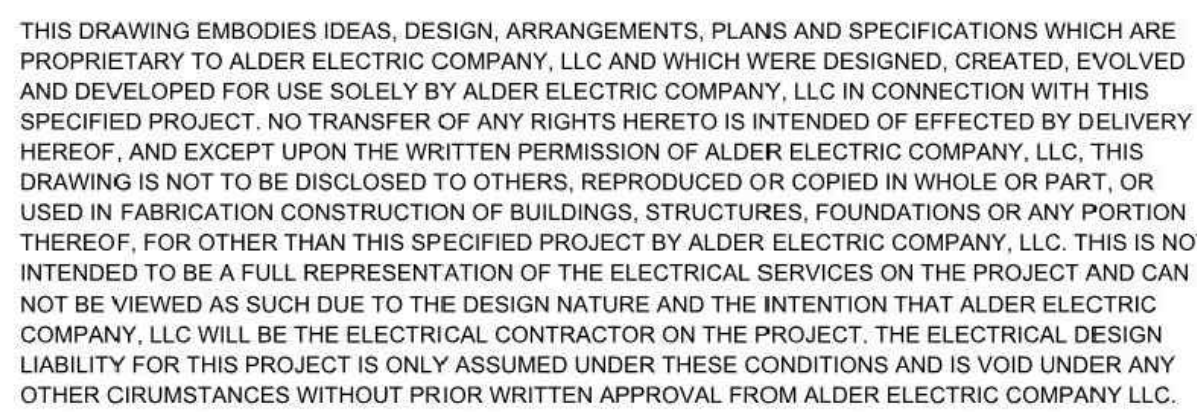
REVISIONS:		
NO.	DATE	DESCRIPTION
1	11/21/2022	RMP COORDINATION

DATE..... 11/10/2022
SCALE..... SEE DWG.
DRAWN..... JJS
CHECKED..... JJS
JOB NO..... 22137.01

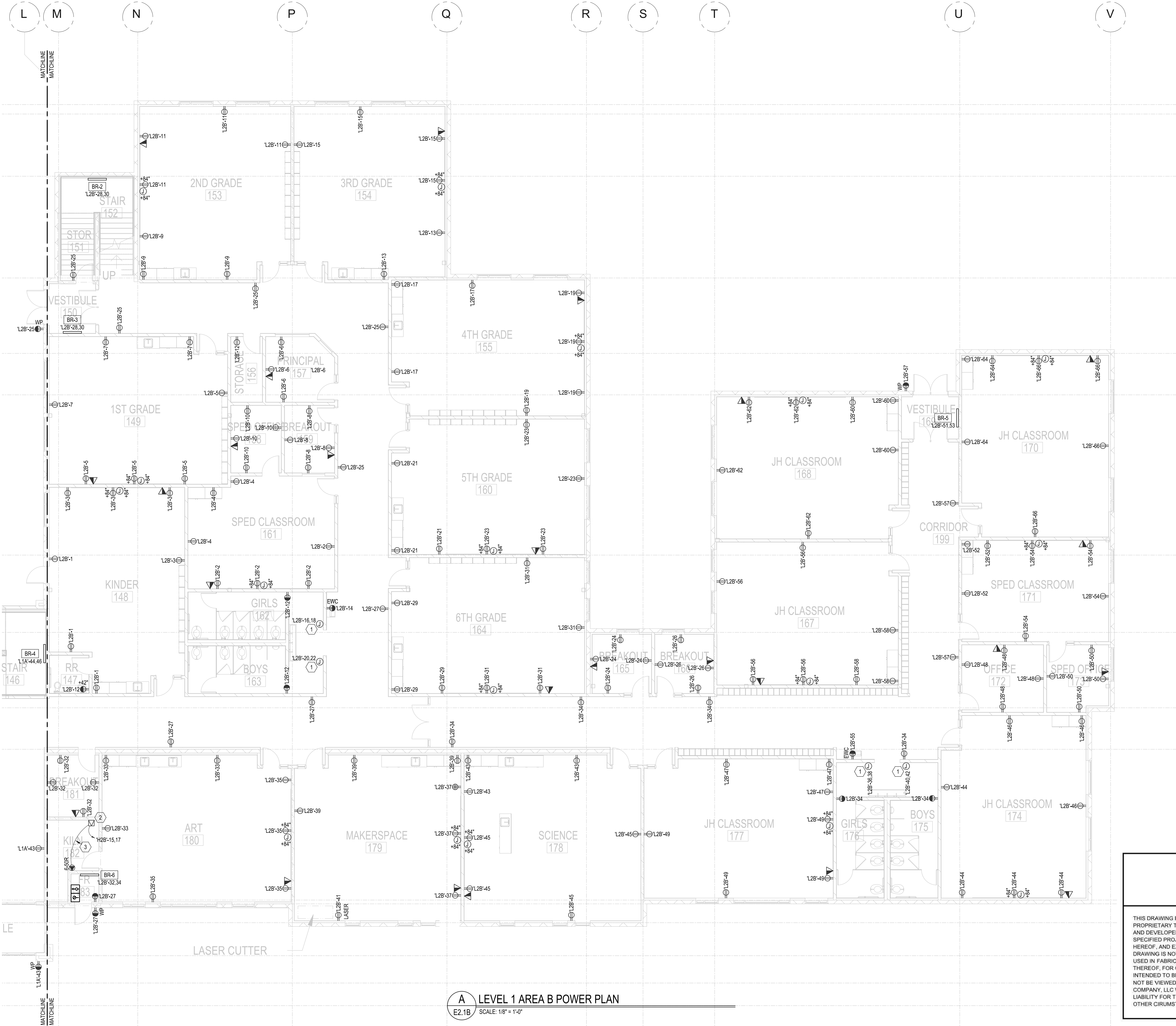
SHEET TITLE
**ELECTRICAL
SITE PLAN**

SHEET NO.
E1.1

A ELECTRICAL SITE PLAN
E1.1 SCALE: 1/32" = 1'-0"



By: Jamith; Nov 08, 2022 - 8:06am, X:\Projects\2022\22137.01 - John Hancock Charter School - Eagle Mountain\High 10\2007 by PVE\11-08-2022\22137.01 - John Hancock Charter School - Eagle Mountain.dwg




- GENERAL NOTES:**

A. FOR ALL 125-VOLT 15- AND 20-AMPERE RECEPTACLES IN CHILD CARE AREAS SUCH AS ALL CLASSROOMS, CORRIDORS, RESTROOMS, GYMNASIUM, LIBRARY, ETC. PROVIDE A LISTED TAMPER-RESISTANT RECEPTACLE PER NEC 406.14.
- KEYED NOTES (#):**

1. POWER FOR HAND DRYERS. COORDINATE LOCATION AND REQUIREMENTS WITH ARCHITECT.


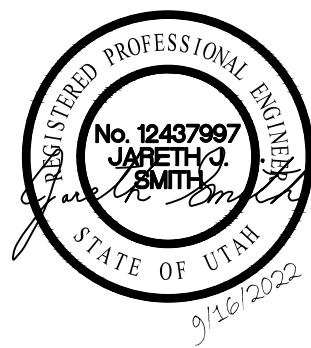
2. 480V-240V, 1-PHASE, 15-KVA WALL-MOUNTED STEP-DOWN TRANSFORMER FOR KILN RECEPTACLE. PROVIDE #8 THHN CU SERVICE GROUNDING CONDUCTOR.

3. PROVIDE (2) #2 AL XHHW CONDUCTORS + (1) #6 XHHW AL GROUND CONDUCTOR FOR SECONDARY SIDE OF STEP-DOWN TRANSFORMER.

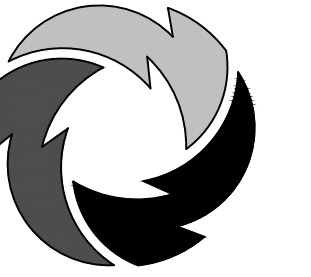


ENGINEERING AND ELECTRICAL SERVICES
DESIGN BUILD - COMMERCIAL - INDUSTRIAL

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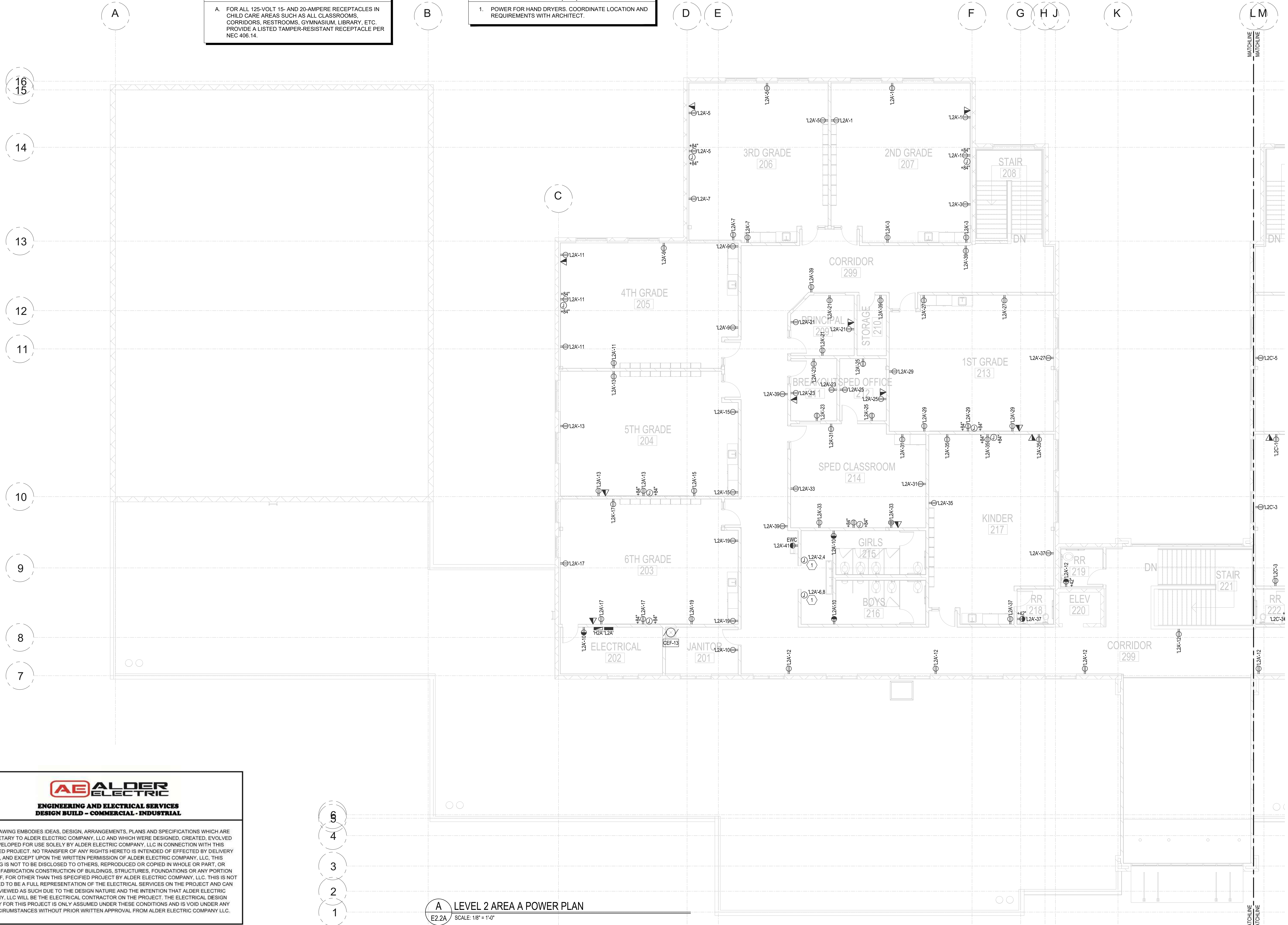
JOHN HANCOCK CHARTER SCHOOL
2890 N SCARLET ROAD
EAGLE MOUNTAIN, UTAH

NO.	REVISIONS:	DATE	DESCRIPTION

DATE..... 11/10/2022
SCALE..... SEE DWG.
DRAWN..... JJS
CHECKED..... JJS
JOB NO..... 22137.01

SHEET TITLE
**LEVEL 1 AREA B
POWER PLAN**

SHEET NO.
E2.1B



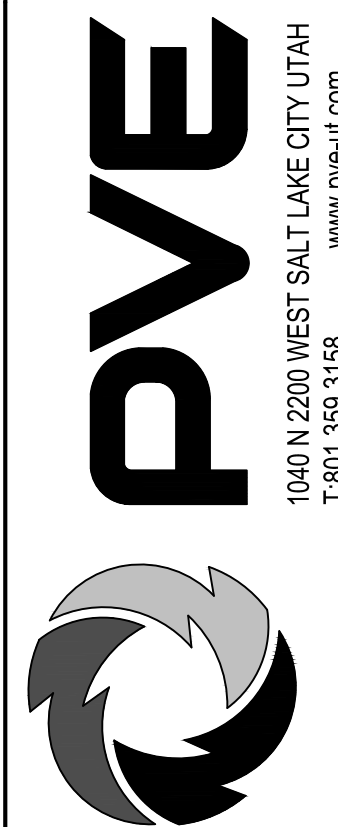
A. FOR ALL 125-VOLT 15- AND 20-AMPERE RECEPTACLES IN CHILD CARE AREAS SUCH AS ALL CLASSROOMS, CORRIDORS, RESTROOMS, GYMNASIUM, LIBRARY, ETC. PROVIDE A LISTED TAMPER-RESISTANT RECEPTACLE PER NEC 406.14.

1. POWER FOR HAND DRYERS. COORDINATE LOCATION AND REQUIREMENTS WITH ARCHITECT.

A LEVEL 2 AREA A POWER PLAN
E2.2A SCALE: 1/8" = 1'-0"

AE ALDER ELECTRIC
ENGINEERING AND ELECTRICAL SERVICES
DESIGN BUILD - COMMERCIAL - INDUSTRIAL

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EAGLE MOUNTAIN, UTAH

[illegible]

DATE..... 11/10/2022
SCALE..... SEE DWG.
DRAWN..... JJS
CHECKED..... JJS
JOB NO..... 22137.01

SHEET TITLE

LEVEL 2 AREA A
POWER PLAN

SHEET NO.

E2.2A

